

5

WHAT IS CLAIMED IS:

1. A method for removing an impurity gas discharged from a process apparatus used for processing objects by using a process gas, comprising:

evacuating an interior of the process apparatus, thereby drawing the impurity gas through an exhaust pipe connecting the process apparatus and a trap mechanism;

10

mixing a reaction gas to react with the impurity gas within the exhaust pipe at a location between the process apparatus and the trap mechanism to convert the impurity gas to reaction by products, and

trapping said reaction by-products using the trap mechanism.

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2. The impurity gas removing method according to claim 1, wherein the reaction gas is fed into a portion of the exhaust pipe in a vicinity of the process apparatus.

3. The impurity gas removing method according to claim 1, wherein the process gas is one of a titanium-containing gas, tungsten-containing gas and tantalum-containing gas.

20

4. The impurity gas removing method according to claim 1, wherein the reaction gas is at least one of an ammonia gas and oxygen-containing gas.

5. The impurity gas removing method according to claim 1, wherein an oxidative-gas is fed into a portion of the exhaust pipe.